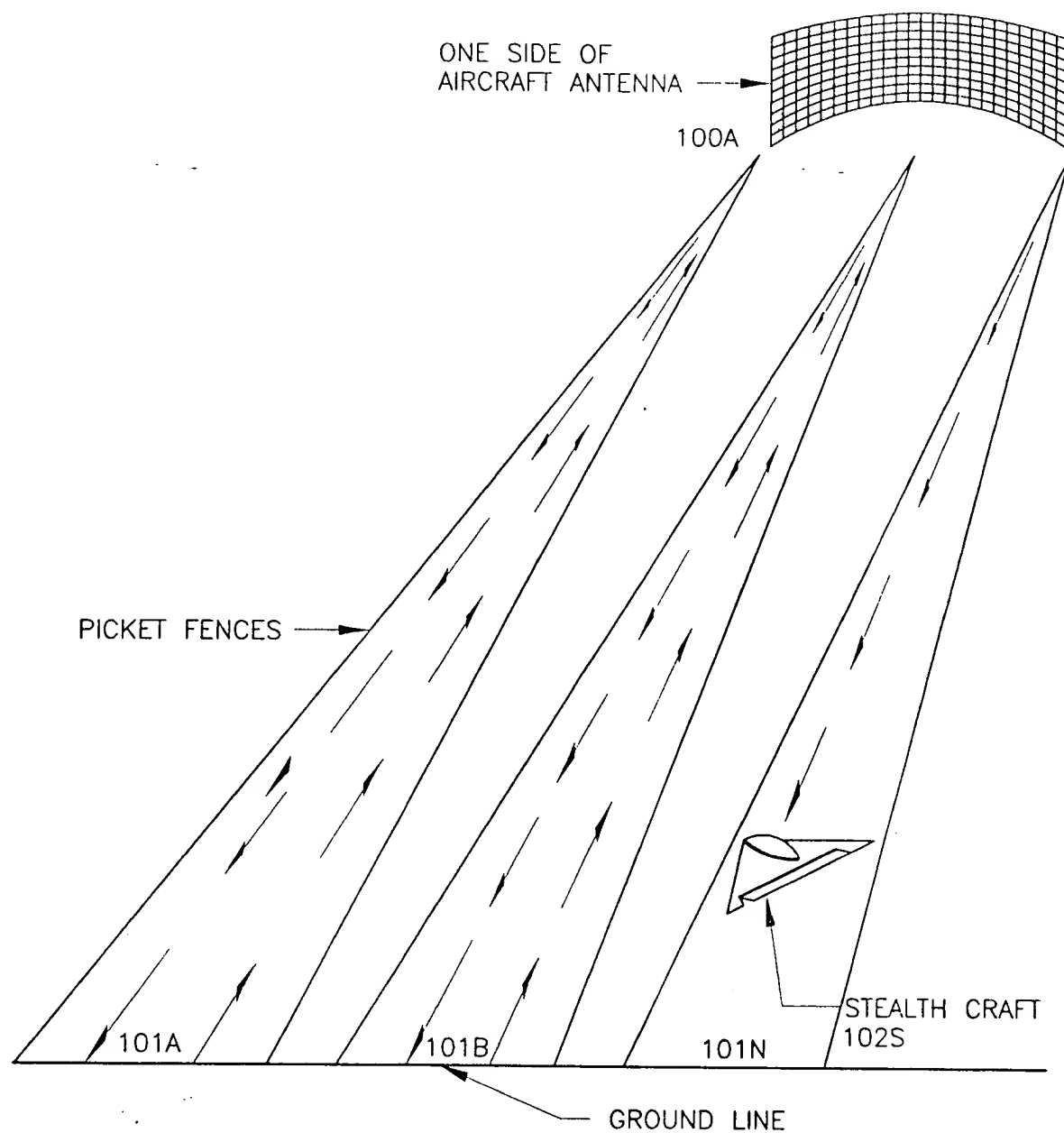


00/049/0454560



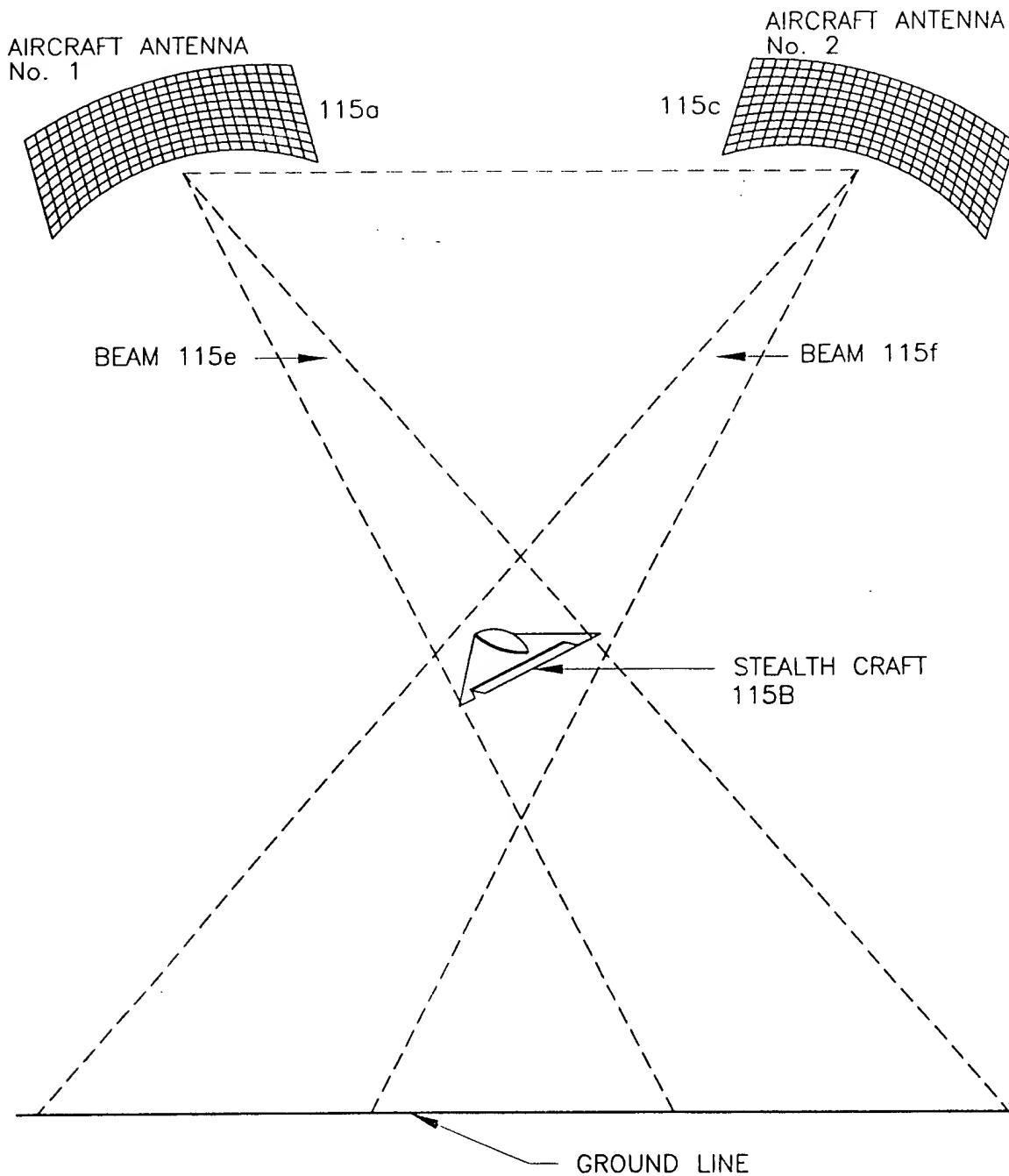
ELECTRONIC PICKET FENCES

FIG. 1

The diagram illustrates a beam steering system. At the top right, a curved grid represents 'ONE SIDE OF AIRCRAFT ANTENNA 110A'. A series of lines radiate from this antenna towards the bottom left. Three specific beams are labeled: 'BEAM 1 (110A)', 'BEAM 2', and 'BEAM 3 (110B)'. A 'STEALTH CRAFT 110C' is shown flying along these beams. A horizontal line at the bottom is labeled 'GROUND LINE'. A double-headed arrow labeled 'Z' indicates a distance or range. A label 'ONE PICKET FENCE' points to a dashed line near the ground.

DETECTING A STEALTH CRAFT WITH A SINGLE TRANSMITTER/RECEIVER

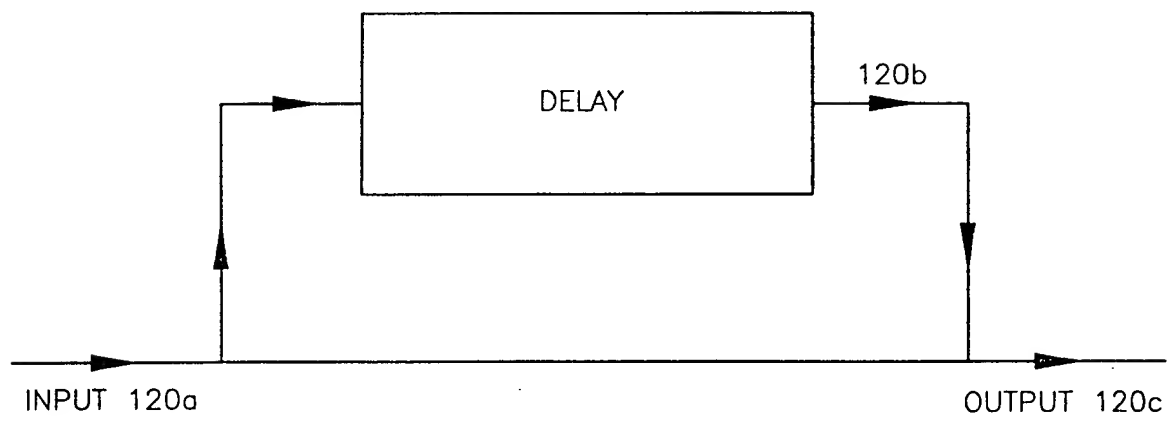
FIG. 2



DETECTING DISTANCE TO STEALTH CRAFT
BY TRIANGULATION

FIG. 3

1/2 WAVELENGTH OR MULTIPLE OF 1/2 WAVE LENGTH



CANCELLATION

FIG. 4

Background Cancellation and Leading and Trailing Edge Detection

| | Current ground reflection i.e., Signal from current time | Previous ground reflection- Signal from current Time minus delay | Resulting Signal |
|----------------------------|--|--|---------------------|
| Ground | S | S | NS |
| Leading edge air boundary | S | S | NS |
| Leading edge of craft | NS | S | S |
| Middle of craft | NS | NS | NS |
| Trailing edge of craft | NS | NS | NS |
| Trailing edge air boundary | S | NS | S |

S = Signal

NS = No Signal

Fig. 5

Background Cancellation and Making a Silhouette White

| | Current ground reflection i.e., Signal from current time | Previous ground reflection Signal from time before stealth detected | Resulting Signal |
|----------------------------|---|---|---------------------|
| Ground | S | S | NS |
| Leading edge air boundary | S | S | NS |
| Leading edge of craft | NS | S | S |
| Middle of craft | NS | S | S |
| Trailing edge of craft | NS | S | S |
| Trailing edge air boundary | S | S | NS |

S = Signal

NS = No Signal

Fig. 6

Background Cancellation and Making a Shadow White Shadow

| Area | Pre-Stealth Craft Signal (delayed reflection) | Current Signal (Current reflection) | Result |
|----------------|--|--|-----------|
| Current Shadow | Signal | No Signal | Signal |
| Non-Shadow | Signal | Signal | No Signal |

Fig. 7

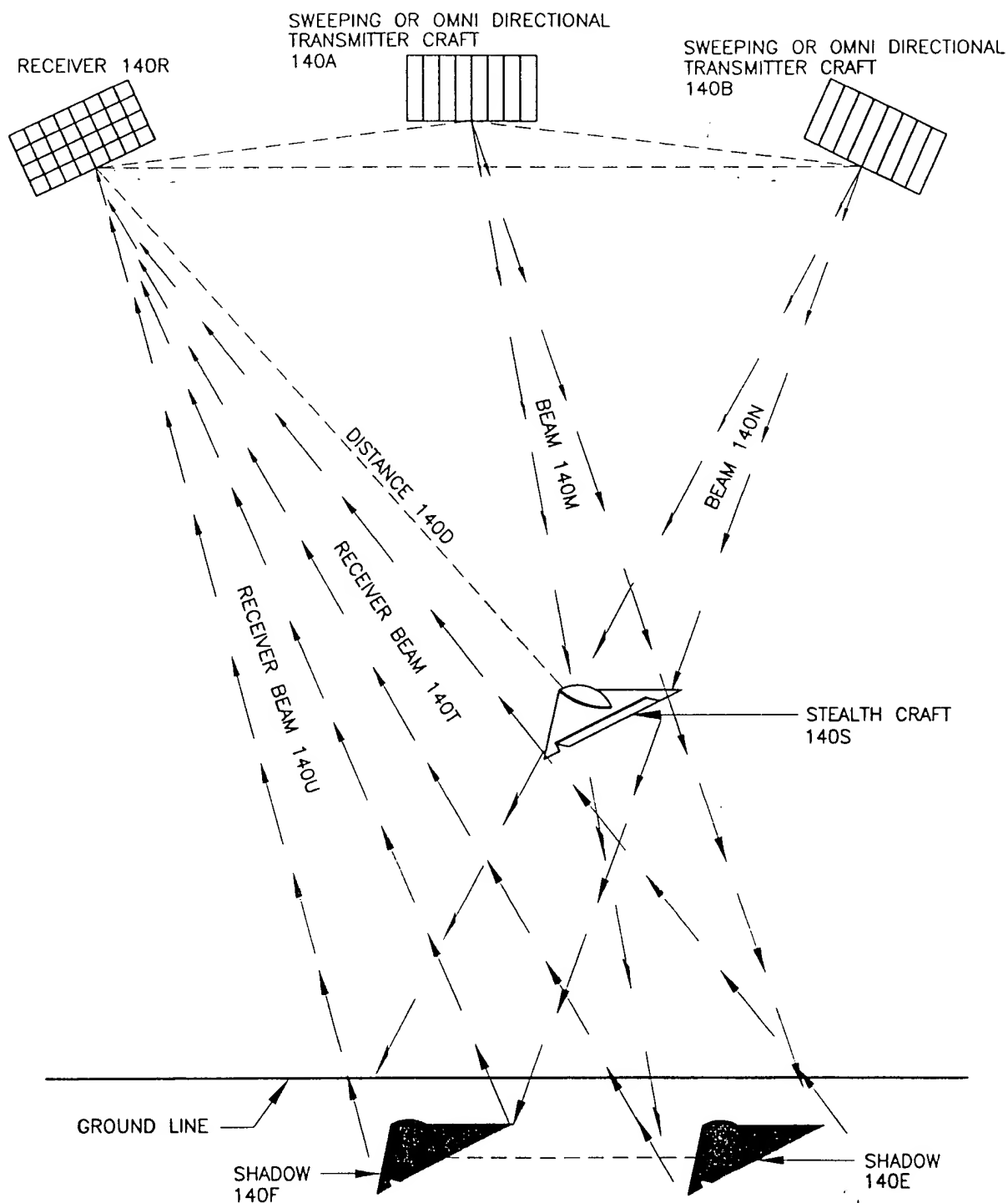
A diagram showing a satellite in orbit receiving a signal from another satellite above it. The signal is labeled 'SATELLITE' and 'ONAL'. The satellite is represented by a rectangular box with several lines pointing downwards, indicating transmission to ground stations.

STEALTH CRAFT
130c

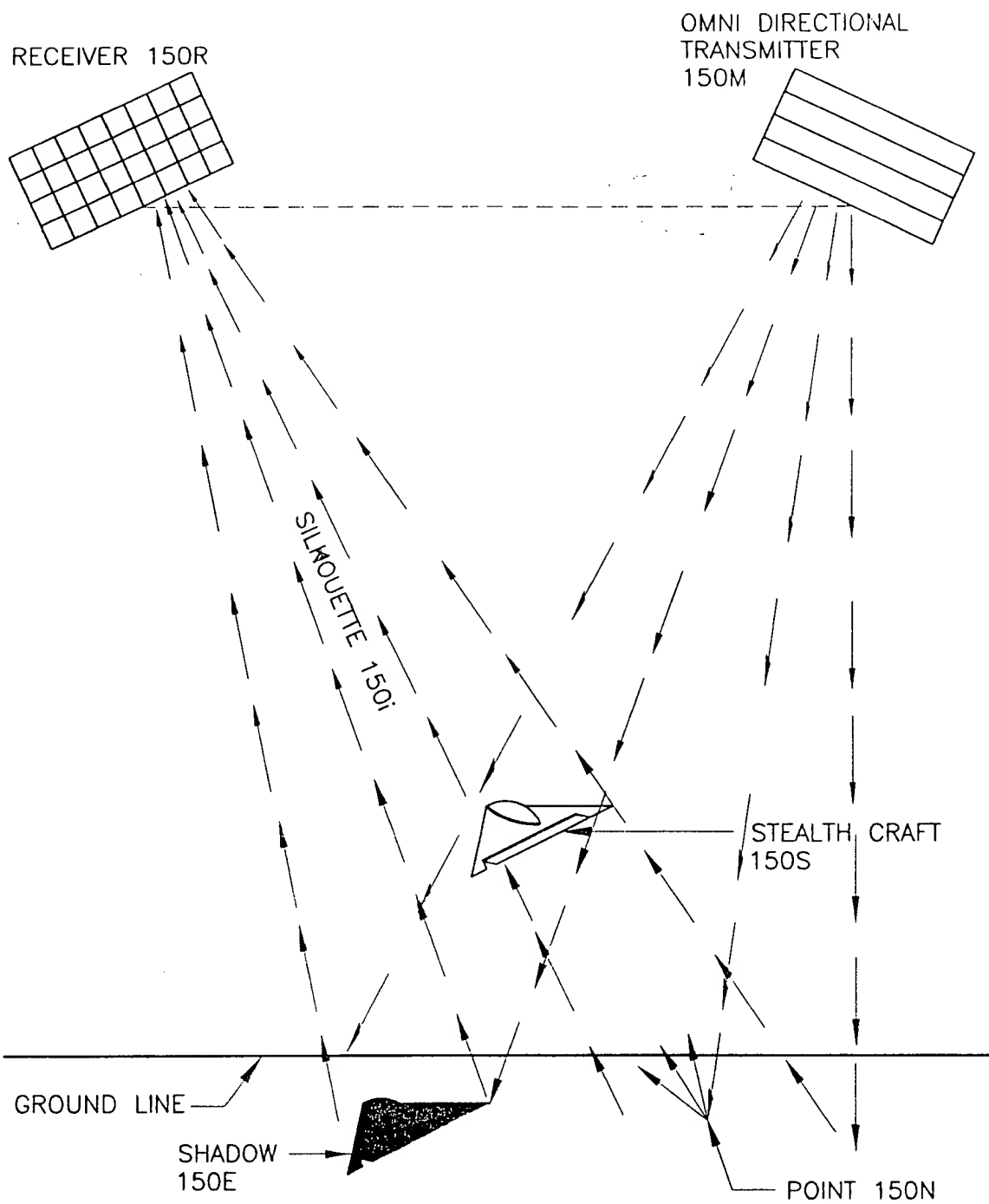
DETECTING A STEALTH CRAFT WITH OMNI DIRECTIONAL TRANSMITTER AND SEPARATE RECEIVER

THE

SECRET



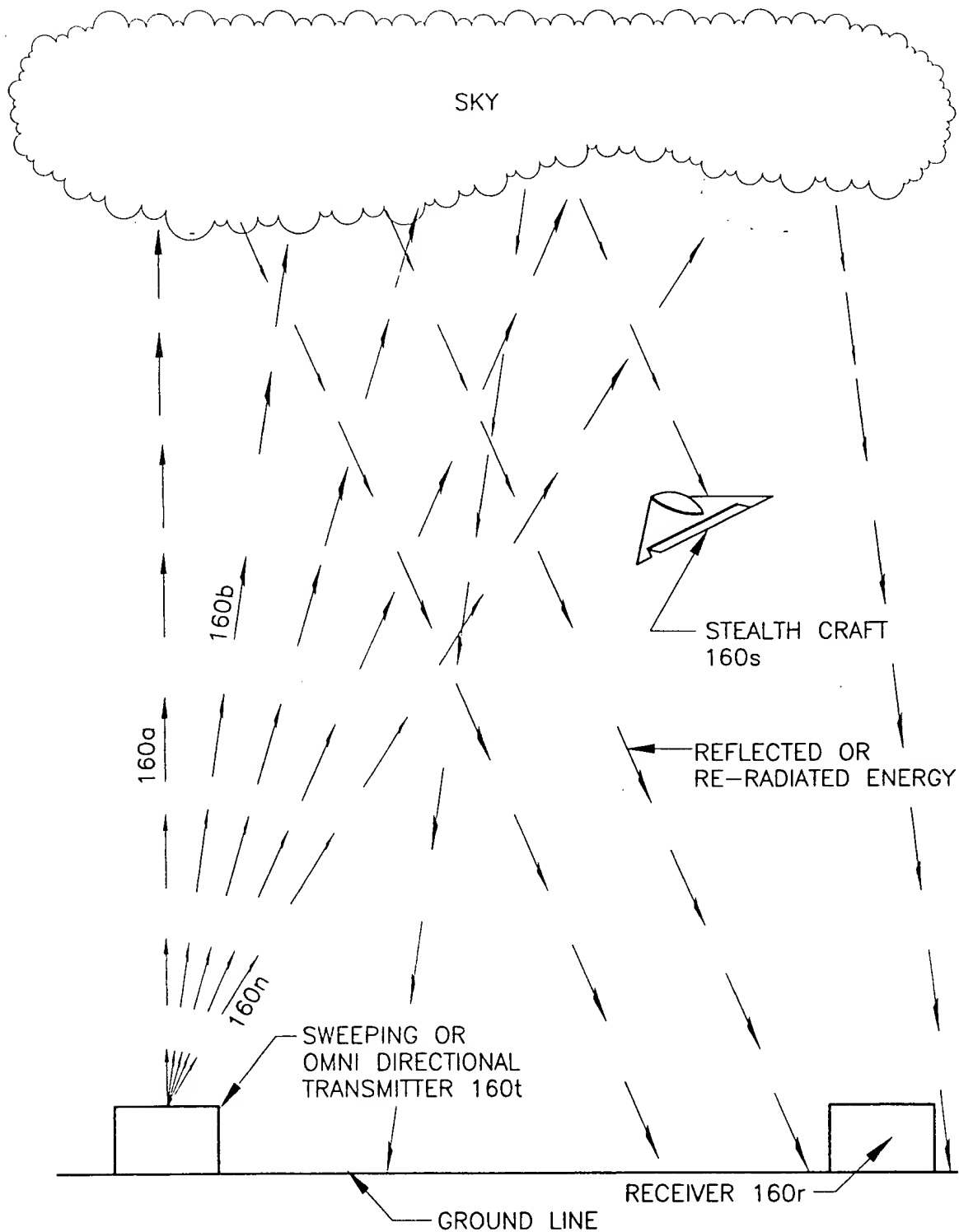
DETECTION AND DISTANCE DETERMINATION WITH
TWO TRANSMITTERS AND ONE RECEIVER USING SHADOWS
FIG. 9



DETECTION AND DISTANCE DETERMINATION WITH
ONE TRANSMITTER AND ONE RECEIVER
USING BOTH SILHOUETTE AND SHADOW

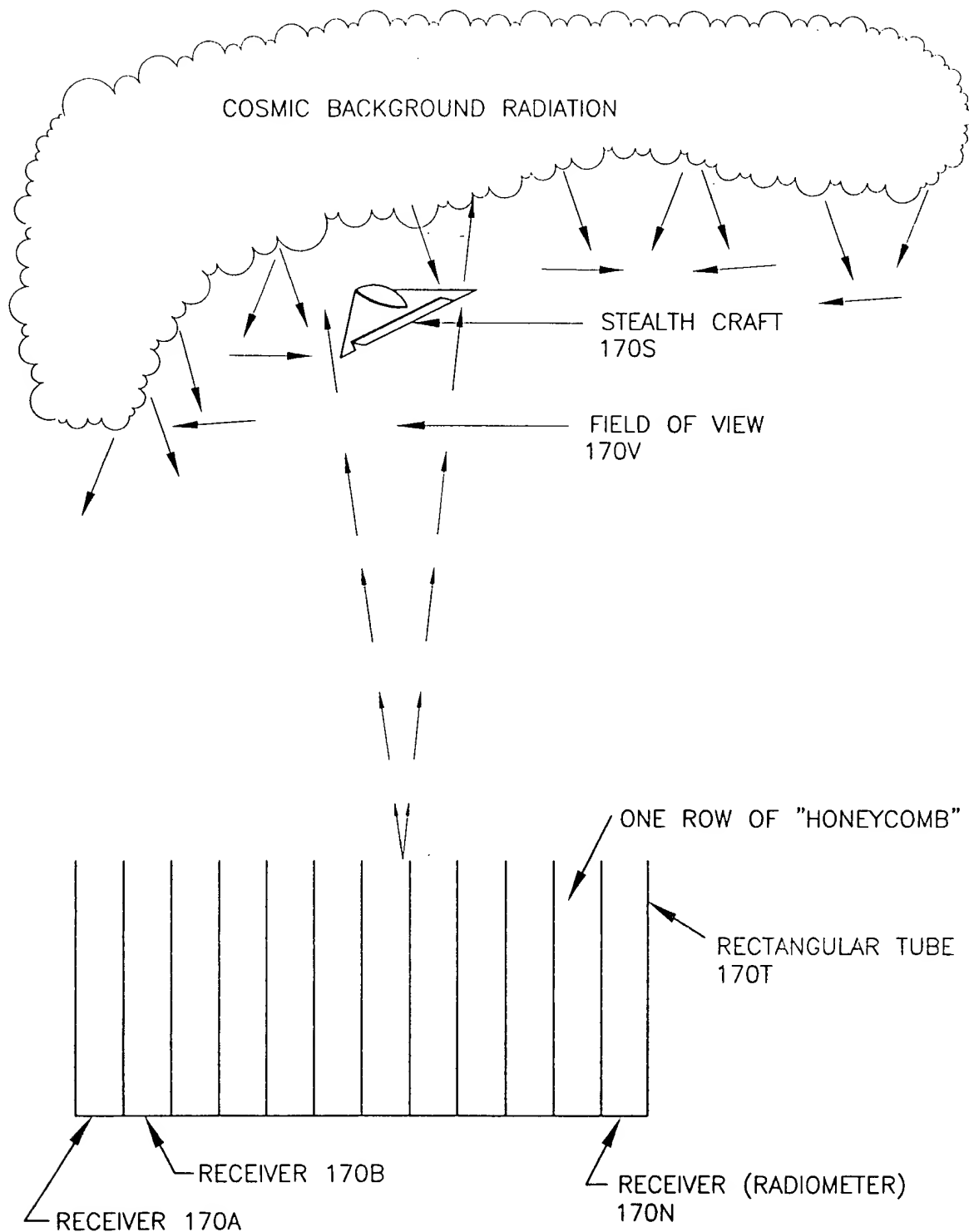
FIG. 10

SECRET

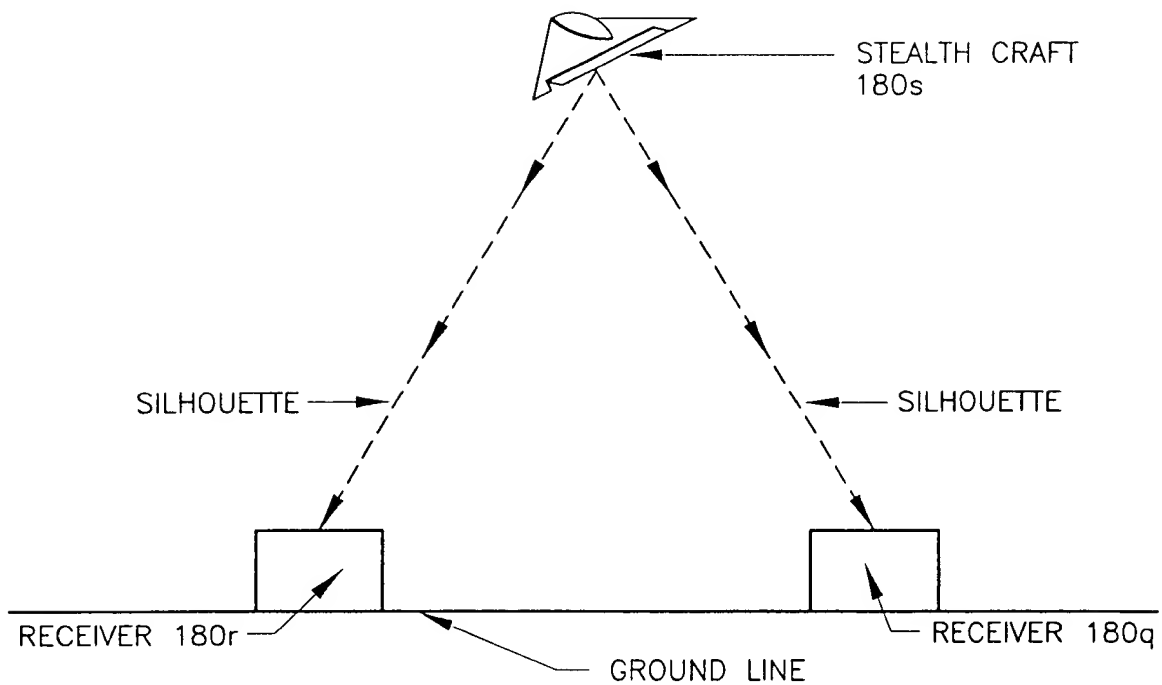


DETECTION OF STEALTH CRAFT USING
THE SKY AS "REFLECTOR"

FIG. 11



DETECTION OF STEALTH CRAFT USING
COSMIC BACKGROUND RADIATION
FIG. 12



PASSIVE (BACKGROUND) DISTANCE DETERMINATION
DISTANCE DETERMINATION WITH COSMIC
BACKGROUND RADIATION

FIG. 13